

AIR FORCE QUALIFICATION TRAINING PACKAGE (AFQTP)



for
UTILITIES SYSTEMS
(3E4X1)

MODULE 24

MAINTENANCE OF TOOLS AND EQUIPMENT

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MAINTENANCE OF TOOLS AND EQUIPMENT

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Career Field Education and Training Plan (CFETP) references from 1 Apr 97 version.

OPR: HQ AFCEA/CEOT

Certified by: HQ AFCEA/CEO
(Colonel Lance C. Brendel)

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training if equipment is available. It is to be used in conjunction with these for training purposes only.

AIR FORCE QUALIFICATION TRAINING PACKAGES
for
UTILITIES SYSTEMS
(3E4X1)

INTRODUCTION

Before starting this AFQTP, refer to and read the “Trainee/Trainer Guide” located on the AFCESA Web site <http://www.afcesa.af.mil/>

AFQTPs are mandatory and must be completed to fulfill task knowledge requirements on core and diamond tasks for upgrade training. *It is important for the trainer and trainee to understand* that an AFQTP does not replace hands-on training, nor will completion of an AFQTP meet the requirement for core task certification. AFQTPs will be used in conjunction with applicable technical references and hands-on training.

AFQTPs and Certification and Testing (CerTest) must be used as minimum upgrade requirements for Diamond tasks.

MANDATORY minimum upgrade requirements:

Core task:

AFQTP completion
Hands-on certification

Diamond task:

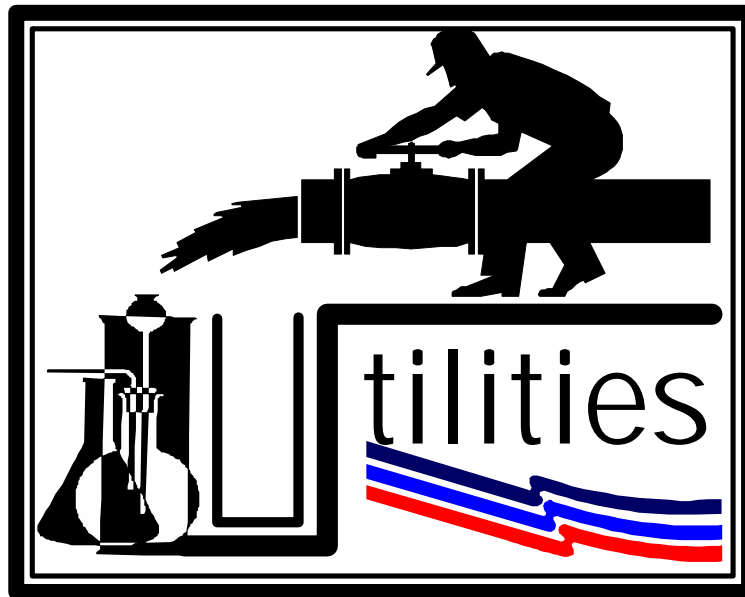
AFQTP completion
CerTest completion (80% minimum to pass)

Note: *Trainees will receive hands-on certification training for Diamond Tasks when equipment becomes available either at home station or at a TDY location.*

Put this package to use. Subject matter experts under the direction and guidance of HQ AFCESA/CEOT revised this AFQTP. If you have any recommendations for improving this document, please contact the Career Field Manager at the address below.

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MAINTENANCE OF TOOLS AND EQUIPMENT

MODULE 24

AFQTP UNIT 1

USE OF HAND TOOLS (24.1.)

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USE OF HAND TOOLS

Task Training Guide

STS Reference Number/Title:	24.1., Use of hand tools
Training References:	<ul style="list-style-type: none"> • CDC 3E451A Utilities Systems Journeyman • Study Guide/Workbook J3ABR3E451
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a 3E4X1 AFSC
Equipment/Tools Required:	<ul style="list-style-type: none"> • Basic plumbers tool box
Learning Objective:	<ul style="list-style-type: none"> • Trainee will learn the use of hand tools.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee will be able to safely use hand tools.
Notes:	
<ul style="list-style-type: none"> • Steps will be followed in sequence as needed • Any safety violation is an automatic failure 	

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USE OF HAND TOOLS

Background: A Utilities Systems Journeyman uses many different types of tools. Some are designed to be used only for plumbing, while others are used by many specialties. Hand tools such as drills, hammers, pliers, saws, screwdrivers, and wrenches are part of your personal toolbox. These are the tools used in your day-to-day work. Each individual must use and safeguard their tools on a daily basis. There are many hand tools that we could cover; however, our focus will be on those that tend to have the highest frequency in Utilities' operations.

NOTE:

One of the best pieces of advice on tools is “use the proper tool for the job”. Some tools come with manufacturer's instructions, while other tools are covered in almost any general hand-tool literature

The following examples will assist you in the proper use of two common hand tools.

Pipe wrench.

- Use a pipe wrench during assembly and disassembly of pipes and fittings.
- Adjust the jaws of the wrench to take a full grip on the pipe.

SAFETY:

NEVER ALLOW THE PIPE TO SLIP BELOW THE GRIP IN THE JAW OPENING. THIS COULD CAUSE THE WRENCH TO “KICK-OFF” AND RESULT IN INJURY.

Adjustable jaw wrenches.

- Adjust the jaws to fit square stock or the flat surfaces of a bolt-head or nut.
- Always adjust these wrenches to fit the nut or bolt head snugly.

See Table 1 for information on common hand-tools and their functions.

SAFETY:

AN IMPROPERLY ADJUSTED WRENCH MAY SLIP AND CAUSE INJURY, ROUND OFF THE CORNERS OF A BOLT OR NUT, OR CAUSE STRAINS ON THE JAWS OF THE WRENCH. THIS COULD CAUSE CRACKS OF THE JAWS OR DAMAGE TO THE ADJUSTING SCREW.

TOOL	MAIN TYPES	GENERAL USES & FUNCTIONS
Screwdriver	Cross-point and Common	Drive and remove screws manually
Hammers	Claw, Ball-peen, Mallet, Sledge	Driving nails, cutting tools, and punches
Wrenches	Adjustable, Box-end, Open-end, Socket, Pipe, Allen	Gripping, loosening, and tightening bolts, nuts, pipes, studs, and round rods
Hacksaws	Adjustable and Solid Frame	Cutting metals: Brass, cast iron, copper, steel, etc.
Files	Flat, Mill, Triangular, Square, Round, Half-round	Shave, cut, or finish metal via double or single cuts (i.e. course, bastard, second, smooth, and dead smooth)
Punches	Center, Prick, Solid, Pin, Long Taper	To “punch” marks and establish holes (for drilling) in metal
Shears	“Tin Snips”	Cutting lightweight sheet metal, gasket stock, etc.
Pliers	Slip-joint, Long Nose, Diagonal-Cutting, Side-Cutting, Water-pump, Vice Grips (clamp)	For gripping, holding, and in some cases cutting objects

Table 1, Common Hand Tools

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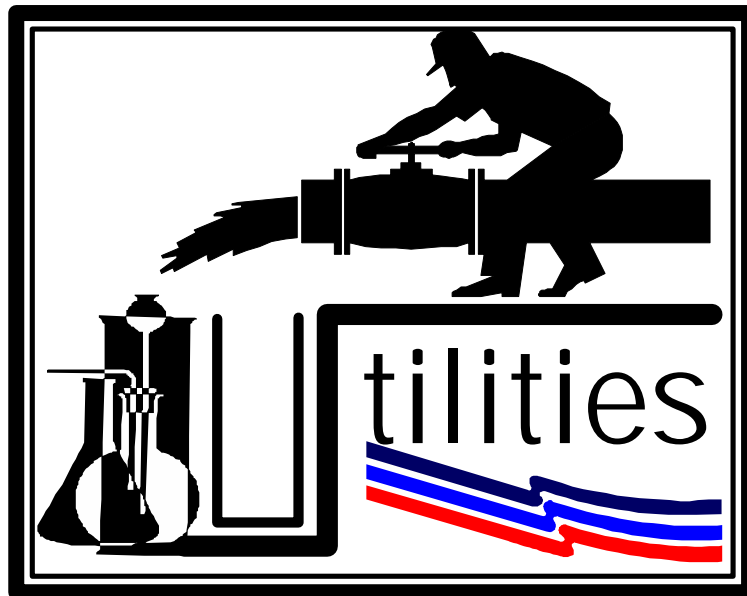
**Review Questions
for
Use of Hand Tools**

Question	Answer
1. What can you refer to on the use of hand tools?	a. Manufacturers instruction b. Basic hand-tool literature c. Both a and b d. None of the above
2. What is the most important thing to remember when using hand tools?	a. Use proper tool for the job b. Use only expensive tools c. Use only brand-name tools d. If it works, use it
3. Never exert a hard pull on a wrench until it has a firm grip on the pipe because it may “kick-off” and cause injury.	a. True b. False
4. What usually happens if the jaws of an adjustable wrench are set improperly?	a. They could round off the corners of the bolt b. The wrench will be damaged c. Nothing usually happens

USE OF HAND TOOLS

Performance Checklist		
Step	Yes	No
1. Did trainee identify all the equipment needed for the job?		
2. Did the trainee take proper safety precautions?		
3. Did the trainee complete all the questions in QTP? <ul style="list-style-type: none">• Score 80% or higher• Did trainer review and explain all missed questions?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.



MAINTENANCE OF TOOLS AND EQUIPMENT

MODULE 24

AFQTP UNIT 2

CARE OF HAND TOOLS (24.2.)

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training if equipment is available. It is to be used in conjunction with these for training purposes only.

CARE OF HAND TOOLS

Task Training Guide

STS Reference Number/Title:	24.2., Care of hand tools
Training References:	<ul style="list-style-type: none"> • CDC 3E451A • Study Guide/Workbook J3ABR3E41
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a 3E4X1 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none"> • Basic plumbers tool box
Learning Objective:	<ul style="list-style-type: none"> • Trainee will learn the care of hand tools.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee will be able to successfully and safely care for hand tools.
Notes:	
<ul style="list-style-type: none"> • Steps will be followed in sequence as needed • Any safety violation is an automatic failure 	

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CARE OF HAND TOOLS

Background: A Utilities Systems Journeyman uses many different types of tools. Some are designed to be used only for plumbing, while others are used by many specialties. Hand tools such as drills, hammers, pliers, saws, screwdrivers, and wrenches are part of your personal toolbox. These are the tools used in your day-to-day work. Knowing the uses of tools is only part of your job. You also have to know how to maintain them. Let's discuss the general maintenance of hand tools.

NOTE:

TO 32-1-101, Use and care of hand tools and measuring tools, will be your best source of information regarding individual tools.

The following steps will assist you in the proper care of hand tools.

Step 1: When storing tools for a long period of time, raise the box off wood or cement floors so that air circulates under the box.

Step 2: Coat small tools with a thin layer of lubricant to prevent rusting.

NOTE:

Remember to clean all metal parts of tools to remove fingerprints before coating the tools with oil.

Step 3: Apply a light coat of linseed oil to the wooden parts of tools before they are stored.

- This will preserve it and prevents moisture from entering the wood.

Step 4: Tools with grooved jaws should be cleaned out with a wire brush after each use.

- Use a wire brush for pipe wrenches.
- Use a file card for files

Step 5: Chisel's should be dressed with the proper edge before they are put away.

Step 6: Sharpen all hand tools when needed.

SAFETY:

- 1. REMEMBER A DULL OR NOT PROPERLY MAINTAINED TOOL WILL NOT DO THE JOB AS A WELL-CLEANED AND MAINTAINED TOOL. A DULL TOOL HAS A TENDENCY TO SLIP, AND WILL INJURE THE OPERATOR MORE THAN A PROPERLY MAINTAINED TOOL.**
- 2. ALWAYS WEAR YOUR EYE PROTECTION.**

Review Questions for Care of Hand Tools

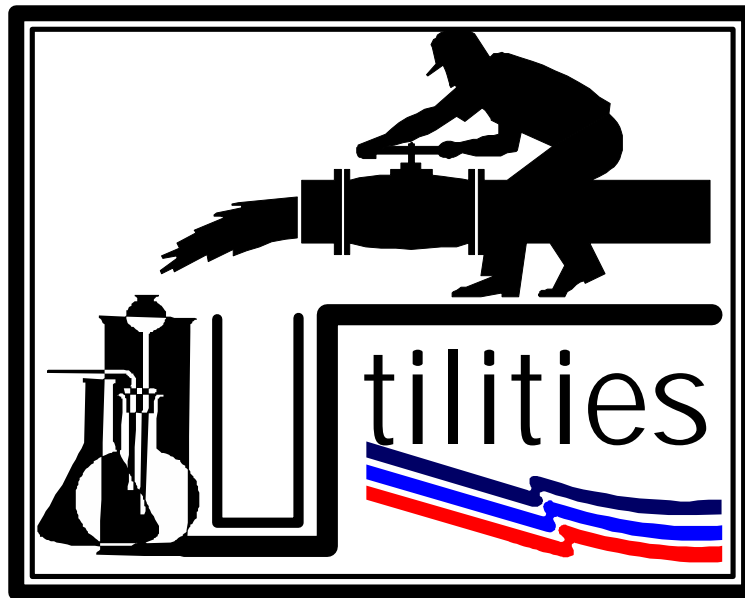
Question	Answer
1. What TO can be used for the care of hand tools?	a. TO 32-1-101 b. TO 32-1-102 c. TO 32-2-101 d. TO 32-2-102
2. If you store tools for a long time what should you do?	a. Keep the air moist b. Raise toolbox off floor c. Clean them before using d. Keep toolbox on level floors
3. Why do you apply a thin coat of lubricant to small tools?	a. Allow gripping b. Prevent slipping c. Allow flexibility d. Prevent corrosion
4. What should you apply to wood to preserve it?	a. Crisco oil b. Linseed oil c. Olive oil d. WD-40
5. What part needs to be cleaned most frequently on the pipe wrench?	a. Jaws b. Handle c. Adjustment d. None of the above
6. What do you use to clean the jaws of a pipe wrench?	a. Wire brush b. File card c. A nail d. Tooth brush
7. What should be maintained on a chisel?	a. A sharp point b. A proper edge c. A round head d. A straight body

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CARE OF HAND TOOLS

Performance Checklist		
Step	Yes	No
1. Did trainee identify all the equipment needed for the job?		
2. Did the trainee take proper safety precautions?		
3. Did the trainee clean all tools?		
4. Did the trainee store tools properly?		
5. Did the trainee complete all the questions in QTP?		
<ul style="list-style-type: none"> • Score 80% or higher • Did trainer review and explain all missed questions? 		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.



MAINTENANCE OF TOOLS AND EQUIPMENT

MODULE 24

AFQTP UNIT 3

USE OF SHOP EQUIPMENT (24.3.)

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USE OF SHOP EQUIPMENT

Task Training Guide

STS Reference Number/Title:	24.3., Use of Shop Equipment
Training References:	<ul style="list-style-type: none"> • CDC 3E451A • Study Guide/Workbook J3ABR3E451
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a 3E4X1 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none"> • Safety goggles • Applicable shop equipment
Learning Objective:	<ul style="list-style-type: none"> • Trainee will use shop equipment properly.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee will understand how to use shop equipment properly.
Notes:	
<ul style="list-style-type: none"> • Any safety violation is an automatic failure 	

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USE OF SHOP EQUIPMENT

Background: There are numerous equipment items you may encounter at one time or another. Depending on your shop equipment inventory, you may encounter more equipment items than other shops. We will discuss a couple of equipment items that most utilities personnel will use. If there is a task to complete, would you know the right shop equipment to assist you? Would you know how to use the equipment properly and safely? The first step is to ask your supervisor, or a trained individual about the shop equipment in your section. The next step is to ask for training on the equipment. In order to operate shop equipment you must be trained by a qualified operator.

NOTE:

The shop equipment may vary from shop to shop. This is only a general brief guideline on a couple of common shop equipment items. Use manufacturer's instructions or shop operating instructions to operate your shop equipment.

Bench grinders are used for sharpening chisels, screwdrivers, drill bits, and punches. A bench grinder is usually fitted with both medium and fine grain abrasive wheels, but can be replaced with other type wheels such as wire brushes, buffers or polishing wheels. When using the bench grinder, hold the work firmly at the correct angle on tool rest. Feed the work into the wheel with enough pressure to remove the desired amount of metal without generating excessive heat. Occasionally cool the edge of the tool being ground to prevent drawing of the temper (i.e. weakening).

SAFETY:

WEAR GOGGLES WHEN USING THE BENCH GRINDER AND ENSURE EYE SHIELDS ARE ATTACHED AND PROPERLY ADJUSTED TO THE GRINDER. DO NOT USE A GRINDER WITHOUT WHEEL GUARDS. EXERCISE HAND-CAUTION!

Drill presses come in different models and sizes. Some drill presses are portable while others are floor mounted. The most common drill presses have ½ inch chucks. Drill presses are equipped with a feed handle which applies pressure to the bit as it turns the material. Choose the proper size bit and clamp the material being drilled to the worktable. Apply enough pressure on the feed handle to drill through the material, but do not apply too much pressure. This may cause premature wear of drill bits and the drill motor.

SAFETY:

WEAR GOGGLES WHEN USING DRILL PRESSES. REMOVE DRILL BITS AFTER USE. BE SURE THE MATERIAL BEING DRILLED IS SECURELY FASTENED TO THE WORKTABLE.

Power threaders come in different models and sizes so you should always read the manufacturer's instructions and be trained by a qualified operator before operating this equipment. The power threader can be used to cut, ream, and thread pipe. Care should be taken not to wear loose clothing when operating power threaders.

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TOOL	MAIN TYPES	GENERAL USES & FUNCTIONS
Portable drills	Electric, Pneumatic	Make holes in metal or wood
Pipe Cutters	Single, Double, and Triple Wheel	Cut pipe and tubing
Pipe Reamers	Spiral and Flute	Remove burrs left from cutting pipe and tubing
Pipe Dies	1/8" - 2"	Cut threads on pipe
Vises	Machinist's, Utility, Chain, Conventional	Hold pipe for cutting, reaming, and threading manually
Power Threader	1/2" - 2"	Cutting, reaming, and threading electrically

Table 1, Common Shop Tools and their Functions

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**Review Questions
for
Use of Shop Equipment**

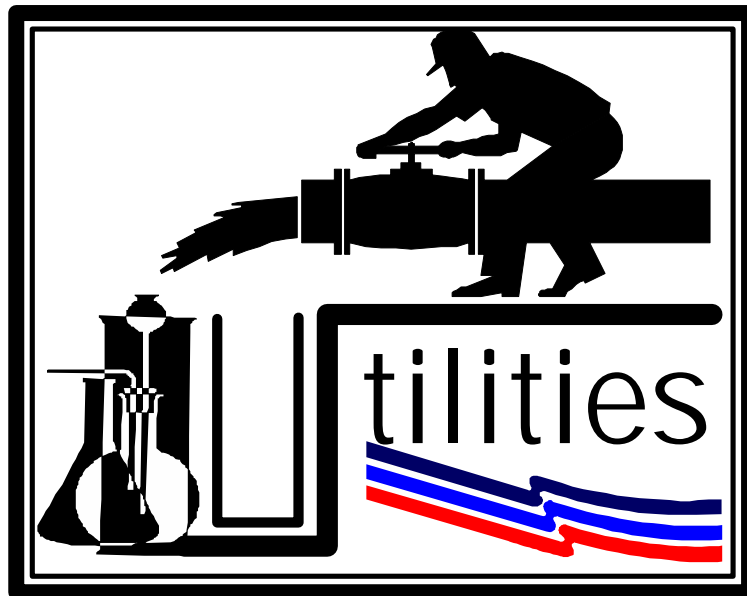
Question	Answer
1. A bench grinder is used to sharpening chisels, screwdrivers, drill bits, and punches.	a. True b. False
2. The purpose of cooling material being ground is to prevent drawing of the temper.	a. True b. False
3. When feeding material to the bench grinder, apply enough pressure for the tool to become as hot as possible for building of the temper.	a. True b. False
4. Eye protection is not needed if safety shields are mounted on the bench grinder.	a. True b. False
5. What is used to apply pressure on a drill press?	a. Auto mallet b. Feed handle c. lever d. Your strength

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USE OF SHOP EQUIPMENT

Performance Checklist		
Step	Yes	No
1. Did the trainee take safety precautions?		
2. Did the trainee use shop equipment properly?		
3. Did the trainee understand the use of shop equipment?		
4. Did the trainee complete the questions in QTP? <ul style="list-style-type: none"> • Score 80% or higher • Did trainer review and explain all missed questions? 		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.



MAINTENANCE OF TOOLS AND EQUIPMENT

MODULE 24

AFQTP UNIT 4

CARE OF SHOP EQUIPMENT (24.4.)

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CARE OF SHOP EQUIPMENT

Task Training Guide

STS Reference Number/Title:	24.4., Care of Shop Equipment
Training References:	<ul style="list-style-type: none"> • CDC 3E451 • Study Guide/Workbook J3ABR3E451
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a 3E4X1 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none"> • None
Learning Objective:	<ul style="list-style-type: none"> • Trainee will successfully maintain care for shop equipment.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee will understand the purpose of maintaining shop equipment.
Notes:	

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CARE OF SHOP EQUIPMENT

Background: When maintaining shop tools or equipment, use protective equipment to protect yourself from injury. Primary protective equipment items are goggles and gloves. Keep the goggle lenses clean when they are not being used. Clean or replace gloves if they get muddy or dirty. Clean leather gloves with saddle soap to prevent the leather from becoming stiff. To protect the gloves, coat them with Neat's foot oil.

All tools and equipment require a certain amount of outline maintenance. In some cases, the maintenance is simply cleaning and applying oil to prevent rusting. In other cases, maintenance may require applying a torque wrench to certain bolts. Obviously, in a text of this type, detailed maintenance procedures for each piece of equipment that you use is not feasible. Procedures for maintenance of shop equipment are usually written in technical order (TO) and manufacturers' manuals. Often, critical maintenance items are written on the equipment. For example, "Use SAE No. 10 oil. Change oil after each 50 hours of operation."

You have heard the term "safety first" many times in the past. Your safety and the safety of Air Force equipment must be a major concern before launching any mission. In the long run, much more work is done when equipment is maintained properly and when sound safety practices are exercised. Common sense can also go a long way in our daily routine.

Equipment that has operating parts should be lubricated as needed. Some types of power equipment have fittings for a grease gun, and some have cups for applying oil with an oil can. Other equipment is lubricated by just applying oil to the moving parts. Over lubrication of equipment usually results in seizure, damage, or simply a mess of your work area. If you apply an excessive amount of lubricant, remove it with a rag. Always store clean and dirty rags in separate, marked, metal (or noncombustible) containers.

**Review Questions
for
Care of Shop Equipment**

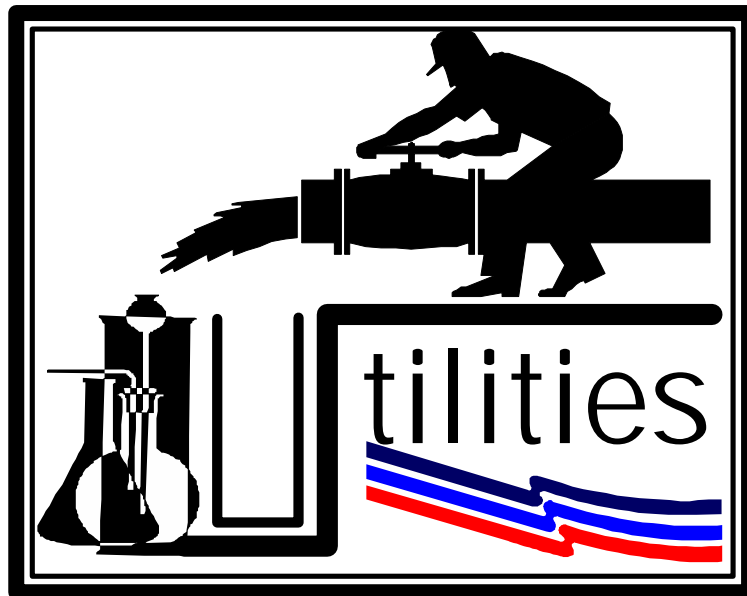
Question	Answer
1. What instructions should be followed to maintain shop equipment?	a. Maintenance posted on the equipment b. Manufacturers manuals c. T.O.s d. All the above
2. Equipment that has operating parts should be _____ as needed.	a. Kept dry b. Moistened c. Lubricated d. Sand Blast
3. Use _____ when applying the rules of maintenance.	a. Mom's guide b. Common sense c. "Tool Time" d. "Home Time"

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CARE OF SHOP EQUIPMENT

Performance Checklist		
Step	Yes	No
1. Did the trainee take safety precautions?		
2. Did the trainee successfully follow procedures to maintain care of shop equipment?		
3. Did the trainee understand the purpose of maintaining the care of shop equipment?		
4. Did the trainee complete the questions in QTP? <ul style="list-style-type: none"> • Score 80% or higher • Did trainer review and explain all missed questions? 		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.



MAINTENANCE OF TOOLS AND EQUIPMENT

MODULE 24

AFQTP UNIT 5

CONDUCT INVENTORIES (24.5.)

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CONDUCT INVENTORIES

Task Training Guide

STS Reference Number/Title:	24.5., Conduct Inventories
Training References:	<ul style="list-style-type: none">• CDC 3E451
Prerequisites:	<ul style="list-style-type: none">• Possess as a minimum a 3E4X1 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none">• None
Learning Objective:	<ul style="list-style-type: none">• Trainee will know the proper procedures for conducting inventory.
Samples of Behavior:	<ul style="list-style-type: none">• Trainee will understand the importance of conducting inventory.

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CONDUCT INVENTORIES

Background: Each person shares in the responsibility of equipment in our shops. This obligation applies whether or not such property has been issued to the person or the person's unit. When a stock clerk issues an Air Force item to you, the issuing authority temporarily transfers its accountability, and you assume custodial responsibility for the item(s). This does not mean you become the owner because the item will always be Air Force property.

Supervisory responsibility applies to persons who exercise supervision over property received, in use, in transit, in storage, or undergoing modification or repair. Anyone having possession of Government property has custodial responsibility for it and is personally responsible for the property. This applies to official or personal use, and whether or not a receipt for the property has been completed.

Adequate supplies must be on hand and in good condition. Do not hoard supplies, tools or equipment, or requisition more than you actually need. Hoarding or overstocking results in shortages in some units and overages in others. This also places a wasteful demand on procurement funds by generating false requirements.

It cannot be stressed enough to keep accurate, current records of resources required, received, consumed and on hand. Accurate accounting and records result in an even flow of resources to meet Air Force needs. This can easily be applied by you. Make a list of tools, equipment, parts and material that you use on a day by day basis. Marking items off the list when you use them, or if someone borrows a tool, have them fill out an AF Form 1297 *Temporary Issue Receipt* (also known as a hand receipt). Check the list against tools, equipment, parts and material on a routine basis and make note of missing items. Check hand receipts for missing tools or equipment and replenish parts, materials, and supplies as needed. Adjust your list to show an accurate account of supplies, materials, and equipment. You have just completed an inventory.

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**Review Questions
for
Conduct Inventories**

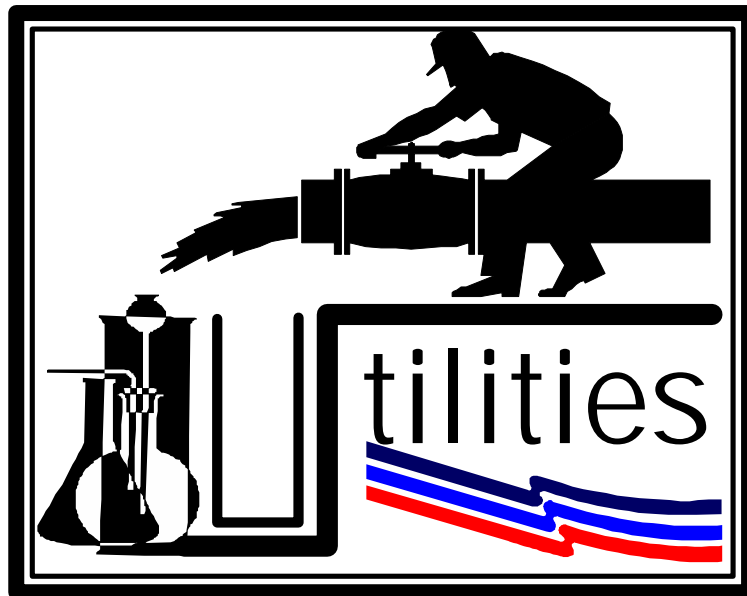
Question	Answer
1. _____ having possession of Government property has custodial responsibility.	a. Custodians b. Managers c. Airmen d. Anyone
2. Shortages in some units and overages in others are the results in hoarding or overstocking.	a. True b. False
3. It cannot be stressed enough to avoid accurate, current records of resources required, received, consumed and on hand.	a. True b. False

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training if equipment is available. It is to be used in conjunction with these for training purposes only.

CONDUCT INVENTORIES

Performance Checklist		
Step	Yes	No
1. Did the trainee understand how to conduct an inventory?		
2. Did the trainee understand why inventories must be conducted?		
3. Did the trainee complete all the questions in the QTP? <ul style="list-style-type: none">• Score 80% or higher• Did trainer review and explain all missed questions?		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.



MAINTENANCE OF TOOLS AND EQUIPMENT

MODULE 24

AFQTP UNIT 7

ATTACH CONDITION TAGS (24.7.)

Notice. This AFQTP is NOT intended to replace the applicable technical references nor is it intended to replace hands-on training if equipment is available. It is to be used in conjunction with these for training purposes only.

ATTACH CONDITION TAGS

Task Training Guide

STS Reference Number/Title:	24.7., Attach Condition Tags
Training References:	<ul style="list-style-type: none"> • CDC 3E451
Prerequisites:	<ul style="list-style-type: none"> • Possess as a minimum a 3E4X1 AFSC.
Equipment/Tools Required:	<ul style="list-style-type: none"> • DD Form 1574 • DD Form 1577 • DD Form 1577-2
Learning Objective:	<ul style="list-style-type: none"> • Trainee will successfully and correctly attach condition tags.
Samples of Behavior:	<ul style="list-style-type: none"> • Trainee will understand why and how to attach condition tags.
Notes:	

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ATTACH CONDITION TAGS

Background: Equipment condition tags are actual Department of Defense forms. These forms are colored cardboard tags attached to pieces of equipment and material to denote the condition of an item. To be valid, condition tags must have the inspector's name or stamp in the appropriate block. The date inspected must also be included. Tags are extremely important.

SAFETY:

UNAUTHORIZED PERSONS REMOVING, DEFACING, OR DESTROYING ANY ONE OF THESE TAGS MAY BE SUBJECT TO A FINE OF NOT MORE THAN \$1,000 OR IMPRISONMENT FOR NOT MORE THAN 1 YEAR, OR BOTH (18 USC 2461).

Never remove a tag unless you know you are specifically authorized to do so. The penalty is stiff, and the results are often disastrous. These tags are not only used to show present conditions, but for your safety. Operating a piece of equipment with a condemned tag can easily result in serious injuries or even death, not to mention more damage to that piece of equipment.

- **DD Form 1574 (Serviceable Tag).** This yellow tag is placed on all serviceable tools or equipment by an authorized inspector. Always check the last inspection date on these tags before you use the equipment tagged. If the date is expired, notify the authorized inspector or supervisor. (See Figure 1).
- **DD Form 1577 (Unserviceable Condemned Tag).** This red tag is placed on tools or equipment that probably will not be put back in service. Do not try to use equipment that has a red tag attached. (See Figure 2).
- **DD Form 1577-2 (Unserviceable/Repairable Tag).** This green tag is placed on tools or equipment that is declared unserviceable at the present time, but is repairable. (See Figure 3).

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<p>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)</p>	FSN, PART NO. AND ITEM DESCRIPTION Pump, Diaphragm, 3", mud Hog (13 digit stock number)		SERVICEABLE TAG - MATERIEL	
	SERIAL NUMBER/LOT NUMBER Pump Serial #		UNIT OF ISSUE EA	NEXT INSPECTION DUE/OVER-AGE DATE 96/08/10
	CONTRACT OR PURCHASE ORDER NO. N/A		INSPECTION ACTIVITY N/A or SQ	
	REMARKS		INSPECTOR'S NAME OR STAMP AND DATE TSGT MILLER, 96/02/08	
	REMARKS			
<p>REPLACES AF FORM 50B, WHICH MAY BE USED IN THE USAF. (YELLOW)</p>				

SI955255043

Figure 1, DD Form 1574 (Serviceable Tag)

<p>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)</p>	FSN, PART NO. AND ITEM DESCRIPTION Pump, Diaphragm 3", MUD Hog (MAKE sure you have the correct stock number)		UNSERVICEABLE (CONDEMNED) TAG-MATERIEL	
	SERIAL NUMBER/LOT NUMBER Serial number here		UNIT OF ISSUE	QUANTITY
	REMARKS Pump has a cracked lower casing & is begun repair		INSPECTION ACTIVITY N/A or SQ	
			REASON OR AUTHORITY N/A	
			INSPECTOR'S NAME OR STAMP AND DATE Shop Supervisor + Date	
<p>REPLACES AF FORM 50E, WHICH MAY BE USED IN THE USAF (RED)</p>				

SI955255044

Figure 2, DD Form 1577 (Unserviceable Condemned Tag)

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<p>WARNING: Unauthorized persons removing, defacing, or destroying this tag may be subject to a fine of not more than \$1,000 or imprisonment for not more than one year or both. (18 USC 1361)</p>	FSN, PART NO. AND ITEM DESCRIPTION Pump, Diaphragm 3" muo hog		UNSERVICEABLE (REPARABLE) TAG—MATERIEL		
			INSPECTION ACTIVITY N/A or SW	CONDITION CODE N/A	
			REASON FOR REPARABLE CONDITION N/A		
	SERIAL NO./LOT NO. Pump Serial #		UNIT OF ISSUE EA	REMOVED FROM INSPECTOR'S NAME OR STAMP AND DATE 96/08/10	
	CONTRACT OR PURCHASE ORDER NO. N/A		QUANTITY 1	REPAIR CYCLE DATA BASE ACCT. NO. N/A REMOVED RECEIVED IN BASE SUPPLY DATE TO TWO RECEIVED AT BRA ORDERED BY MAINT. RECEIVED IN MAINT. SHOP MADE SERVICEABLE	
REMARKS Needs new diaphragm (on order)					

REPLACES AF FORM 500, WHICH MAY BE USED IN THE USAF (GREEN)

DD FORM 1577-2, 1 OCT 66

SI955255045

Figure 3, DD Form 1577-2 Unserviceable(Repairable Tag)

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**Review Questions
for
Attach Condition Tags**

Question	Answer
1. Unauthorized persons removing, defacing, or destroying any one of these tags may be subject to what penalties?	<ul style="list-style-type: none"> a. \$1,000 and/or less than 1 year imprisonment b. \$100,000 and/or less than 1 year imprisonment c. \$1,000 and/or more than 1 year imprisonment d. \$100 and/or less than 1 year imprisonment
2. Who can inspect equipment for attaching condition tags?	<ul style="list-style-type: none"> a. Authorized inspector b. Any Senior NCO c. Authorized Inspector General of the Air Force d. Base Comptroller Inspector
3. Which form is yellow and used on equipment or tools in serviceable condition?	<ul style="list-style-type: none"> a. DD form 1571 b. DD form 1574 c. DD form 1577 d. DD form 1580
4. What is DD Form 1577 used for and what color is it?	<ul style="list-style-type: none"> a. Condemned items; red b. Serviceable items; red c. Condemned items; yellow d. Condemned items; green

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ATTACH CONDITION TAGS

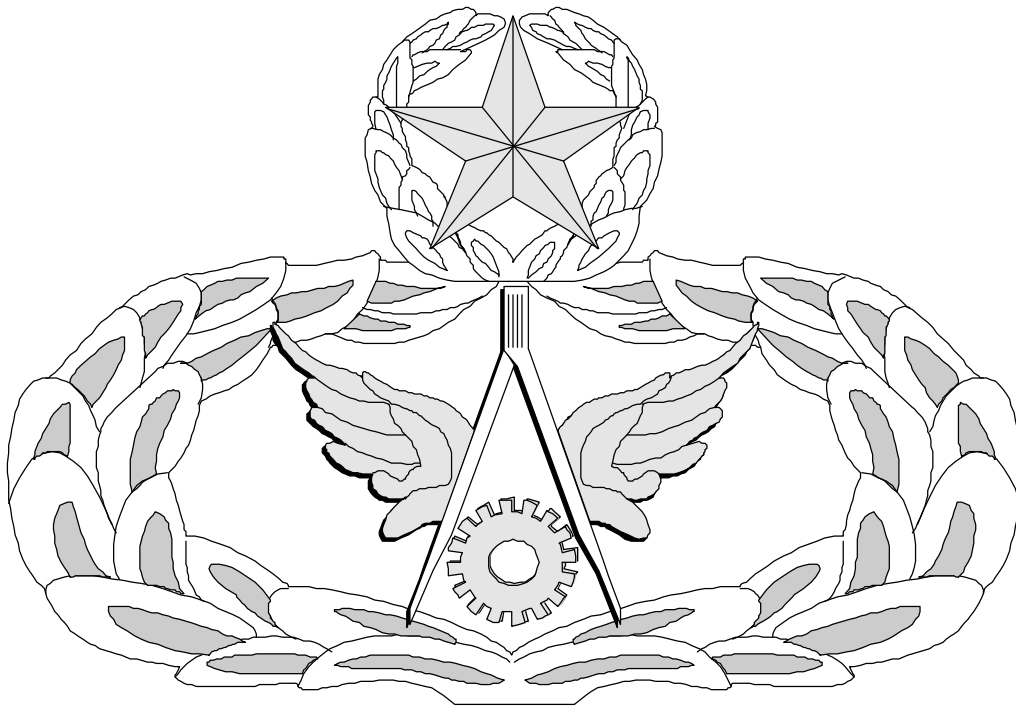
Performance Checklist		
Step	Yes	No
1. Did trainee identify forms?		
2. Did the trainee know how to properly complete and attach condition tags?		
3. Did the trainee understand the procedures for attaching condition tags?		
4. Did the trainee complete all the questions in the QTP? <ul style="list-style-type: none"> • Score 80% or higher • Did trainer review and explain all missed questions? 		

FEEDBACK: Trainer should provide both positive and/or negative feedback to the trainee immediately after the task is performed. This will ensure the issue is still fresh in the mind of both the trainee and trainer.

Air Force Civil Engineer

QUALIFICATION TRAINING PACKAGE (QTP)

REVIEW ANSWER KEY



For
UTILITIES SYSTEMS

(3E4X1)

MODULE 24

MAINTENANCE OF TOOLS AND EQUIPMENT

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Kev-1

USE OF HAND TOOLS

(3E4X1-24.1.)

Question	Answer
1. What can you refer to on the use of hand tools?	c. Both a and b
2. What is the most important thing to remember when using hand tools?	a. Use proper tool for the job
3. Never exert a hard pull on a wrench until it has a firm grip on the pipe because it may “kick-off” and cause injury.	a. True
4. What usually happens if the jaws of an adjustable wrench are set improperly?	a. They could round off the corners of the bolt

CARE OF HAND TOOLS

(3E4X1-24.2.)

Question	Answer
1. What TO can be used for the care of hand tools?	a. TO 32-1-101
2. If you store tools for a long time what should you do?	b. Raise toolbox off floor
3. Why do you apply a thin coat of lubricant to small tools?	d. Prevent corrosion
4. What should you apply to wood to preserve it?	b. Linseed oil
5. What part needs to be cleaned on the pipe wrench?	a. Jaws
6. What do you use to clean the jaws of a pipe wrench?	a. Wire brush
7. What should be maintained on a chisel?	b. Proper edge

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USE OF SHOP EQUIPMENT

(3E4X1-24.3.)

Question	Answer
1. A bench grinder handles grinding tasks such as sharpening chisels, screwdrivers, drill bits, and punches.	a. True
2. The purpose of cooling material being ground is to prevent drawing of the temper.	a. True
3. When feeding material to the bench grinder, apply enough pressure for the tool to become as hot as possible for building of the temper.	b. False
4. Eye protection is not needed if safety shields are mounted on the bench grinder.	b. False
5. What is used to apply pressure on a drill press?	b. Feed handle

CARE OF SHOP EQUIPMENT

(3E4X1-24.4.)

Question	Answer
1. What instructions should be followed to maintain shop equipment?	b. Manufacturers manuals
2. Equipment that has operating parts should be _____ as needed.	c. lubricated
3. Use _____ when applying the rules of maintenance.	c. common sense

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CONDUCT INVENTORIES

(3E4X1-24.5.)

Question	Answer
1. Property responsibility is referring to whom?	d. Everyone
2. _____ having possession of Government property has custodial responsibility.	d. Anyone
3. Shortages in some units and overages in others are the results in hoarding or overstocking.	a. True
4. It cannot be stressed enough to avoid accurate, current records of resources required, received, consumed and on hand.	b. False

ATTACH CONDITION TAGS

(3E4X1-24.7.)

Question	Answer
1. Unauthorized persons removing, defacing, or destroying any one of these tags may be subject to what penalties?	a. \$1,000 and/or less than 1 year imprisonment
2. Who can inspect equipment for attaching condition tags?	a. authorized inspector
3. Which form is yellow and used on equipment or tools in serviceable condition?	b. DD Form 1574
4. What is DD Form 1577 used for, and what color is it?	a. Condemned items; red

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